UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,781	02/05/2002	Eiji Mayumi	81868.0043	7585

26021 7590 12/20/2002

HOGAN & HARTSON L.L.P.
500 S. GRAND AVENUE
SUITE 1900
LOS ANGELES, CA 90071-2611

EXAMINER	
ELKASSABGI, HEBA	
ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/068,781	MAYUMI, EIJI
	Examiner	Art Unit
	Heba Elkassabgi	2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

The drawing of Figure 3 is objected to because the illustration is hazy and needs to better illustrate the disclosed Figure. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1,3,and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (U.S. Patent 6222286 B1) and further in view of Takagi et al. (U.S. Patent Application 2002/0005670 A1) and In re Leshin.

Watanabe et al. illustrates in Figure #2, a stepping motor having a stator yoke (5 and 6) with claw poles (tooth combed magnetic pole)(5b-8b) in a generally comb shape that oppose one another and are arranged in a cylindrical shape in an extending axial direction around an outer periphery of the rotor (4). With a coil bobbin (9a) that is around the stator yoke (5 and 6). Including a cylindrical motor case (frame yoke)(10) that houses the rotor (4), stator yoke (5 and 6) and the bobbin (9a). Furthermore, the motor case (frame yoke)(10) has side wall sections (AA) with a plane opening section

(BB) in an area opposing to the portions of the bobbin (9a) with an outer peripheral surface of the bobbin (9a) located in close proximity to the opening sections (BB), in which the motor (10) case functions as part of the stator yoke (5 and 6). However, Watanabe et al. does not state or illustrates that the rotor has a magnet.

Takagi et al. Discloses in Figure 5 a steeping motor (100) with a rotor (102) having magnet (103), in order to form magnetized multiple radial poles as a result the magnetic attraction drives a stepping operation that provides rotational torque.

It would have been obvious to one of ordinary skill in the art to combine the stepping structure of Watanbe et al. with the structure of the rotor having magnets of Takagi et al. in order to form magnetized multiple radial poles.

In regards to Claim 1 and 3 of the material choice of the motor casing to be of conductive material or magnetic material, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose a material that is suitable, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416

In regards to Claim 4 the method of forming the device from an A-phase and a B-phase block is not germane to the issue of patenability of the device itself. Therefore, this limitation has not been given patentable weight.

Claims 5, 6,7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (U.S. Patent 6222286 B1) and further in view of Takagi et al. (U.S.

Patent Application 2002/0005670 A1) and Yamamoto et al. (U.S. Patent 5121017) and In re Leshin.

Watanabe et al. illustrates in Figure #2, a stepping motor having a stator yoke (5 and 6) with claw poles (tooth combed magnetic pole)(5b-8b) in a generally comb shape that oppose one another and are arranged in a cylindrical shape in an extending axial direction around an outer periphery of the rotor (4). With a coil bobbin (9a) that is around the stator yoke (5 and 6). Including a cylindrical motor case (frame yoke)(10) that encircles the rotor (4), stator yoke (5 and 6) and the bobbin (9a). The sidewall sections (AA) of the motor case (10) coincide with the parallel planes sides to an outer periphery of the coil bobbin (9a). Furthermore, the motor case (frame yoke)(10) has side wall sections (AA) with a plane opening section (BB) in an area opposing to the portions of the bobbin (9a) with an outer peripheral surface of the bobbin (9a) located in close proximity to the opening sections (BB), in which the motor (10) case functions as part of the stator yoke (5 and 6). However, Watanabe et al. does not state or illustrates that the rotor has a magnet and that the bobbin protrudes from the opening section of the motor case.

Takagi et al. Discloses in Figure 5 a steeping motor (100) with a rotor (102) having magnet (103), in order to form magnetized multiple radial poles as a result the magnetic attraction drives a stepping operation that provides rotational torque.

Yamamoto et al. Illustrates in Figure 2 a stepping motor in which the outer peripheral surface of the coil bobbin (48) protrudes from the motor case (10), in order to fill the stator yoke and the bobbin with resin.

It would have been obvious to one of ordinary skill in the art to combine the stepping structure of Watanbe et al. with the structure of the rotor having magnets of Takagi et al. in order to form magnetized multiple radial poles and the structure of Yamamoto et al. of the coil bobbin protruding from the motor case for filling the stator yoke and the bobbin with resin.

In regards to Claim 5 and 7 of the material choice of the motor casing to be of conductive material and of magnetic material, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose a material that is suitable, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416

In regards to Claim 8 the method of forming the device from an A-phase and a B-phase block is not germane to the issue of patenability of the device itself. Therefore, this limitation has not been given patentable weight.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (U.S. Patent 6222286 B1) and further in view of Takagi et al. (U.S. Patent Application 2002/0005670 A1) and Yamamoto et al. (U.S. Patent 5121017) and Kappius et al. (U.S. Patent 3691414) and In re Leshin.

Watanabe et al. illustrates in Figure #2, a stepping motor having a first and second stator yokes (5 and 6) with claw poles (tooth combed magnetic pole)(5b-8b) in

opposed to one another and arranged in a cylindrical shape extending in an axial direction around an outer periphery of the rotor (4). With a first and second coil bobbins (9a) that are formed around the first and second stator yokes (5 and 6). Including a cylindrical motor case (frame yoke)(10) that encircles the rotor (4), stator yoke (5 and 6) and the bobbin (9a). The sidewall sections (AA) of the motor case (10) coincide with the parallel planes sides to an outer periphery of the coil bobbin (9a). Furthermore, the motor case (frame yoke)(10) has side wall sections (AA) with a plane opening section (BB) in an area opposing to the portions of the bobbin (9a) with an outer peripheral surface of the bobbin (9a) located in close proximity to the opening sections (BB), in which the motor (10) case functions as part of the stator yoke (5 and 6). However, Watanabe et al. does not state or illustrates that the rotor has a magnet and that the bobbin protrudes from the opening section of the motor case. with the motor casing comprising of two motor casings.

Takagi et al. Discloses in Figure 5 a steeping motor (100) with a rotor (102) having magnet (103), in order to form magnetized multiple radial poles as a result the magnetic attraction drives a stepping operation that provides rotational torque.

Yamamoto et al. Illustrates in Figure 2 a stepping motor in which the outer peripheral surface of the coil bobbin (48) protrudes from the motor case (10), in order to fill the stator yoke and the bobbin with resin.

Kappius et al. Illustrates in Figure 2 a stepping motor being of a first and second motor casing (1 and 2) with the first and second motor casings (1 and 2) being of

generally tangential to the outer periphery of the bobbin coils (winding)(3a), in order to form a magnetic yoke.

It would have been obvious to one of ordinary skill in the art to combine the stepping structure of Watanbe et al. with the structure of the rotor having magnets of Takagi et al. in order to form magnetized multiple radial poles, and the structure of Yamamoto et al. of the coil bobbin protruding from the motor case for filling the stator yoke and the bobbin with resin, and Kappius et al.'s first and second motor casing to form a magnetic yoke.

In regards to Claim 9 of the material choice of the motor casing to be of conductive material, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose a material that is suitable, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416

Allowable Subject Matter

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior Art does not indicate a sidewall sections of the motor case have bent sections that are discontinuous in the circumferential direction and formed adjacent to the edge sections of the opening sections.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (6:30-3:30), and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HYE
December 14, 2002

TRAN NGUYEN
PRIMARY EXAMINER